RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/828, 559
Source: THUO
Date Processed by STIC: 12-22-09

ENTERED



IFWO

RAW SEQUENCE LISTING

DATE: 12/22/2004 TIME: 15:34:24

PATENT APPLICATION: US/10/828,559

Input Set : A:\0334.210US-seqlist.txt
Output Set: N:\CRF4\12222004\J828559.raw

4 <110> APPLICANT: Punnonen, Juha 5 Apt, Doris 6 Neighbors, Margaret 7 Leong, Steven R. 9 <120> TITLE OF INVENTION: NOVEL TUMOR-ASSOCIATED ANTIGENS (p5,6) 12 <130> FILE REFERENCE: 0334.210US 14 <140> CURRENT APPLICATION NUMBER: US 10/828,559 15 <141> CURRENT FILING DATE: 2004-04-19 17 <150> PRIOR APPLICATION NUMBER: US 60/464,780 18 <151> PRIOR FILING DATE: 2003-04-22 20 <160> NUMBER OF SEQ ID NOS: 95 22 <170> SOFTWARE: FastSEQ for Windows Version 4.0 24 <210> SEQ ID NO: 1 25 <211> LENGTH: 185 26 <212> TYPE: PRT 27 <213> ORGANISM: Artificial Sequence 29 <220> FEATURE: 30 <223> OTHER INFORMATION: TAg-25 fragment comprising extra-cellular domain 31 (ECD) 33 <400> SEQUENCE: 1 34 Arg Ile Lys Pro Glu Gly Ala Leu Gln Asn Asn Asp Gly Leu Tyr Asp 36 Pro Asp Cys Asp Glu Ser Gly Leu Phe Lys Ala Lys Gln Cys Asn Gly 37 25 38 Thr Ala Thr Cys Trp Cys Val Asn Thr Ala Gly Val Arg Arg Thr Asp 40 Lys Asp Thr Glu Ile Thr Cys Ser Glu Arg Val Arg Thr Tyr Trp Ile 42 Ile Ile Glu Leu Lys His Lys Glu Arg Glu Ser Pro Tyr Asp Ser Lys 70 75 44 Ser Leu His Thr Ala Leu Gln Lys Glu Ile Thr Thr Arg Tyr Gln Leu 90 46 Asp Pro Lys Phe Ile Thr Ser Ile Leu Tyr Glu Asn Asn Val Ile Thr 47 48 Ile Asp Leu Met Gln Asn Ser Ser Gln Lys Thr Gln Asp Asp Val Asp 49 120 50 Ile Ala Asp Val Ala Tyr Tyr Phe Glu Lys Asp Val Lys Gly Glu Ser 135 52 Leu Phe His Ser Lys Lys Met Asp Leu Arg Val Asn Gly Glu Leu Leu 54 Asp Leu Asp Pro Gly Gln Thr Leu Ile Tyr Tyr Val Asp Glu Lys Ala 165 170

56 Pro Glu Phe Ser Met Gln Gly Leu Lys

RAW SEQUENCE LISTING DATE: 12/22/2004 PATENT APPLICATION: US/10/828,559 TIME: 15:34:24

Input Set : A:\0334.210US-seqlist.txt Output Set: N:\CRF4\12222004\J828559.raw

185

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61 <211> LENGTH: 57
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63 <213> ORGANISM: Artificial Sequence
65 <220> FEATURE:
66 <223> OTHER INFORMATION: TAg-25 fragment comprising propeptide (PP)
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69 Gln Glu Glu Cys Val Cys Glu Asn Tyr Lys Leu Ala Val Asn Cys Phe
71 Val Asn Asn Asn Arg Glu Cys Gln Cys Thr Ser Val Gly Ala Gln Asn
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73 Thr Val Ile Cys Ser Lys Leu Ala Ala Lys Cys Leu Val Met Lys Ala
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75 Glu Met Asn Gly Ser Lys Leu Gly Arg
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79 <210> SEQ ID NO: 3
80 <211> LENGTH: 23
81 <212> TYPE: PRT
82 <213> ORGANISM: Artificial Sequence
84 <220> FEATURE:
85 <223> OTHER INFORMATION: TAg-25 fragment comprising signal peptide (SP)
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90 Thr Ala Thr Phe Ala Ala Ala
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94 <210> SEQ ID NO: 4
95 <211> LENGTH: 265
96 <212> TYPE: PRT
97 <213> ORGANISM: Artificial Sequence
99 <220> FEATURE:
100 <223> OTHER INFORMATION: TAg-25 polypeptide (which comprises signal
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103 <400> SEQUENCE: 4
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106 Thr Ala Thr Phe Ala Ala Ala Gln Glu Glu Cys Val Cys Glu Asn Tyr
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108 Lys Leu Ala Val Asn Cys Phe Val Asn Asn Asn Arg Glu Cys Gln Cys
109
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                                40
110 Thr Ser Val Gly Ala Gln Asn Thr Val Ile Cys Ser Lys Leu Ala Ala
111
                            55
112 Lys Cys Leu Val Met Lys Ala Glu Met Asn Gly Ser Lys Leu Gly Arg
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113 65
114 Arg Ile Lys Pro Glu Gly Ala Leu Gln Asn Asn Asp Gly Leu Tyr Asp
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116 Pro Asp Cys Asp Glu Ser Gly Leu Phe Lys Ala Lys Gln Cys Asn Gly
117
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RAW SEQUENCE LISTING DATE: 12/22/2004 PATENT APPLICATION: US/10/828,559 TIME: 15:34:24

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Output Set: N:\CRF4\12222004\J828559.raw

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	120 121	Lys	Asp 130	Thr	Glu	Ile	Thr	Cys 135	Ser	Glu	Arg	Val	Arg 140	Thr	Tyr	Trp	Ile	
	122	Ile 145		Glu	Leu	Lys	His 150		Glu	Arg	Glu	Ser 155		Tyr	Asp	Ser	Lys 160	
	124		Leu	His	Thr	Ala		Gln	Lys	Glu			Thr	Arg	Tyr			
	125	Asn	Pro	Lvs	Phe	165 Ile	Thr	Ser	Tle	Len	170 Tvr	Glu	Asn	Asn	Val	175 Tle	Thr	
	127	_		_	180					185					190			
	128 129	Ile	Asp	Leu 195	Met	Gln	Asn	Ser	Ser 200	Gln	Lys	Thr	Gln	Asp 205	Asp	Val	Asp	
	130	Ile	Ala	Asp	Val	Ala	Tyr	Tyr	Phe	Glu	Lys	Asp	Val	Lys	Gly	Glu	Ser	
	131		210					215					220			_	_	
				His	Ser	Lys		Met	Asp	Leu	Arg		Asn	Gly	Glu	Leu		
		225		7 ~~	Drea	C1	230	Thr	T 011	тло	Tr rx	235	T/a l	7 an	C1.,	Tara	240	
	134	Asp	ьeu	Asp	PIO	Gly 245	GIII	IIII	ьeu	rre	250	TÄT	Val	ASP	GIU	<u>гу</u> 5	Ala	
		Pro	Glu	Phe	Ser	Met	Gln	Glv	T.e11	Lvs	250					200		
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	145 146		3> O	THER	INF		· rion:	: TAg	g-25	fraç	gment	c com	mpris	sing	prop	pept	ide+	ECD
	145 146 148	<223 <400	3> 07 3> SE	THER EQUEI	INFO													ECD
	145 146 148 149 150	<223 <400 Gln 1	B> OT D> SE Glu	THER EQUEI Glu	INFO OCE: Cys	5 Val 5	Cys	Glu	Asn	Tyr	Lys 10	Leu	Ala	Val	Asn	Cys 15	Phe	ECD
	145 146 148 149 150 151 152	<223 <400 Gln 1 Val	3> 07 0> SH Glu Asn	THER EQUEN Glu Asn	INFO NCE: Cys Asn 20	5 Val 5 Arg	Cys Glu	Glu Cys	Asn Gln	Tyr Cys 25	Lys 10 Thr	Leu Ser	Ala Val	Val Gly	Asn Ala 30	Cys 15 Gln	Phe Asn	ECD
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,	145 146 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164	<223 <400 Gln 1 Val Thr Glu Leu 65 Leu Asn Ser	3> OT O)> SI Glu Asn Val Met 50 Gln Phe Thr	THER EQUEN Glu Asn Ile 35 Asn Asn Lys Ala Arg 115	INFONCE: Cys Asn 20 Cys Gly Asn Ala Gly 100 Val	Ser Ser Asp Lys 85 Val Arg	Cys Glu Lys Lys Gly 70 Gln Arg	Glu Cys Leu 55 Leu Cys Arg	Asn Gln Ala 40 Gly Tyr Asn Thr	Tyr Cys 25 Ala Arg Asp Gly Asp 105 Ile	Lys 10 Thr Lys Arg Pro Thr 90 Lys	Leu Ser Cys Ile Asp 75 Ala Asp	Ala Val Leu Lys 60 Cys Thr Thr	Val Gly Val 45 Pro Asp Cys Glu Leu 125	Asn Ala 30 Met Glu Glu Trp Ile 110 Lys	Cys 15 Gln Lys Gly Ser Cys 95 Thr	Phe Asn Ala Ala Gly 80 Val Cys Lys	ECD
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•	145 146 148 149 150 151 152 153 154 155 156 157 160 161 162 163 164 165 166	<223 <400 Gln 1 Val Thr Glu Leu 65 Leu Asn Ser Glu	3> OT O)> SI Glu Asn Val Met 50 Gln Phe Thr Glu Arg 130	HER Glu Asn Ile 35 Asn Asn Lys Ala Arg 115 Glu	INFO NCE: Cys Asn 20 Cys Gly Asn Ala Gly 100 Val Ser	Ser Ser Asp Lys 85 Val Arg	Cys Glu Lys Lys Gly 70 Gln Arg Thr	Glu Cys Leu 55 Leu Cys Arg Tyr Asp 135	Asn Gln Ala 40 Gly Tyr Asn Thr Trp 120 Ser	Tyr Cys 25 Ala Arg Asp Gly Asp 105 Ile Lys	Lys 10 Thr Lys Arg Pro Thr 90 Lys Ile Ser	Leu Ser Cys Ile Asp 75 Ala Asp Ile Leu	Ala Val Leu Lys 60 Cys Thr Thr Glu His 140	Val Gly Val 45 Pro Asp Cys Glu Leu 125 Thr	Asn Ala 30 Met Glu Glu Trp Ile 110 Lys Ala	Cys 15 Gln Lys Gly Ser Cys 95 Thr His	Phe Asn Ala Ala Gly 80 Val Cys Lys Gln	ECD
	145 146 148 149 150 151 152 153 154 155 156 157 168 164 165 166 167	<223 <400 Gln 1 Val Thr Glu Leu 65 Leu Asn Ser Glu Lys 145	3> OT Glu Asn Val Met 50 Gln Phe Thr Glu Arg 130 Glu	HER EQUENT Glu Asn Ile 35 Asn Asn Lys Ala Arg 115 Glu Ile	INFONCE: Cys Asn 20 Cys Gly Asn Ala Gly 100 Val Ser Thr	Ser Ser Asp Lys 85 Val Arg	Cys Glu Lys Lys Gly 70 Gln Arg Thr Tyr Arg 150	Glu Cys Leu 55 Leu Cys Arg Tyr Asp 135 Tyr	Asn Gln Ala 40 Gly Tyr Asn Thr Trp 120 Ser Gln	Tyr Cys 25 Ala Arg Asp Gly Asp 105 Ile Lys Leu	Lys 10 Thr Lys Arg Pro Thr 90 Lys Ile Ser Asp	Leu Ser Cys Ile Asp 75 Ala Asp Ile Leu Pro 155	Ala Val Leu Lys 60 Cys Thr Thr Glu His 140 Lys	Val Gly Val 45 Pro Asp Cys Glu Leu 125 Thr	Asn Ala 30 Met Glu Glu Trp Ile 110 Lys Ala Ile	Cys 15 Gln Lys Gly Ser Cys 95 Thr His Leu	Phe Asn Ala Ala Gly 80 Val Cys Lys Gln Ser 160	ECD
,	145 146 148 149 150 151 152 153 154 155 156 157 168 164 165 166 167	<223 <400 Gln 1 Val Thr Glu Leu 65 Leu Asn Ser Glu Lys 145	3> OT Glu Asn Val Met 50 Gln Phe Thr Glu Arg 130 Glu	HER EQUENT Glu Asn Ile 35 Asn Asn Lys Ala Arg 115 Glu Ile	INFONCE: Cys Asn 20 Cys Gly Asn Ala Gly 100 Val Ser Thr	Ser Ser Asp Lys 85 Val Arg Pro	Cys Glu Lys Lys Gly 70 Gln Arg Thr Tyr Arg 150	Glu Cys Leu 55 Leu Cys Arg Tyr Asp 135 Tyr	Asn Gln Ala 40 Gly Tyr Asn Thr Trp 120 Ser Gln	Tyr Cys 25 Ala Arg Asp Gly Asp 105 Ile Lys Leu	Lys 10 Thr Lys Arg Pro Thr 90 Lys Ile Ser Asp	Leu Ser Cys Ile Asp 75 Ala Asp Ile Leu Pro 155	Ala Val Leu Lys 60 Cys Thr Thr Glu His 140 Lys	Val Gly Val 45 Pro Asp Cys Glu Leu 125 Thr	Asn Ala 30 Met Glu Glu Trp Ile 110 Lys Ala Ile	Cys 15 Gln Lys Gly Ser Cys 95 Thr His Leu	Phe Asn Ala Ala Gly 80 Val Cys Lys Gln Ser 160	ECD

RAW SEQUENCE LISTING DATE: 12/22/2004 PATENT APPLICATION: US/10/828,559 TIME: 15:34:24

Input Set : A:\0334.210US-seqlist.txt
Output Set: N:\CRF4\12222004\J828559.raw

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171 Ser Gln Lys Thr Gln Asp Asp Val Asp Ile Ala Asp Val Ala Tyr Tyr
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173 Phe Glu Lys Asp Val Lys Gly Glu Ser Leu Phe His Ser Lys Lys Met
175 Asp Leu Arg Val Asn Gly Glu Leu Leu Asp Leu Asp Pro Gly Gln Thr
       210
                            215
177 Leu Ile Tyr Tyr Val Asp Glu Lys Ala Pro Glu Phe Ser Met Gln Gly
                        230
178 225
179 Leu Lys
183 <210> SEQ ID NO: 6
184 <211> LENGTH: 314
185 <212> TYPE: PRT
186 <213> ORGANISM: Artificial Sequence
188 <220> FEATURE:
189 <223> OTHER INFORMATION: TAg-25 full-length/membrane-bound form, which
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         peptide+propeptide+ECD+TMD+CD
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196 Thr Ala Thr Phe Ala Ala Ala Gln Glu Glu Cys Val Cys Glu Asn Tyr
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198 Lys Leu Ala Val Asn Cys Phe Val Asn Asn Asn Arg Glu Cys Gln Cys
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200 Thr Ser Val Gly Ala Gln Asn Thr Val Ile Cys Ser Lys Leu Ala Ala
                            55
202 Lys Cys Leu Val Met Lys Ala Glu Met Asn Gly Ser Lys Leu Gly Arg
204 Arg Ile Lys Pro Glu Gly Ala Leu Gln Asn Asn Asp Gly Leu Tyr Asp
206 Pro Asp Cys Asp Glu Ser Gly Leu Phe Lys Ala Lys Gln Cys Asn Gly
207
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208 Thr Ala Thr Cys Trp Cys Val Asn Thr Ala Gly Val Arg Arg Thr Asp
                                120
210 Lys Asp Thr Glu Ile Thr Cys Ser Glu Arg Val Arg Thr Tyr Trp Ile
                            135
212 Ile Ile Glu Leu Lys His Lys Glu Arg Glu Ser Pro Tyr Asp Ser Lys
                        150
                                            155
214 Ser Leu His Thr Ala Leu Gln Lys Glu Ile Thr Thr Arg Tyr Gln Leu
                                        170
                    165
216 Asp Pro Lys Phe Ile Thr Ser Ile Leu Tyr Glu Asn Asn Val Ile Thr
                180
                                    185
218 Ile Asp Leu Met Gln Asn Ser Ser Gln Lys Thr Gln Asp Asp Val Asp
                                200
220 Ile Ala Asp Val Ala Tyr Tyr Phe Glu Lys Asp Val Lys Gly Glu Ser
                            215
222 Leu Phe His Ser Lys Lys Met Asp Leu Arg Val Asn Gly Glu Leu Leu
224 Asp Leu Asp Pro Gly Gln Thr Leu Ile Tyr Tyr Val Asp Glu Lys Ala
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DATE: 12/22/2004 RAW SEQUENCE LISTING TIME: 15:34:24 PATENT APPLICATION: US/10/828,559

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Input Set : A:\0334.210US-seqlist.txt Output Set: N:\CRF4\12222004\J828559.raw

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226 Pro Glu Phe Ser Met Gln Gly Leu Lys Ala Gly Val Ile Ala Val Ile
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               260
228 Val Val Val Met Ala Val Val Ala Gly Ile Val Val Leu Val Ile
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230 Ser Arg Lys Lys Arg Met Ala Lys Tyr Glu Lys Ala Glu Ile Lys Glu
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                           295
       290
232 Met Gly Glu Met His Arg Glu Leu Asn Ala
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236 <210> SEQ ID NO: 7
237 <211> LENGTH: 234
238 <212> TYPE: PRT
239 <213> ORGANISM: Artificial Sequence
241 <220> FEATURE:
242 <223> OTHER INFORMATION: Mature Tag-25 polypeptide, which comprises N- to
         C-terminus ECD+TMD+CD
245 <220> FEATURE:
246 <221> NAME/KEY: DOMAIN
247 <222> LOCATION: (186)...(208)
248 <223> OTHER INFORMATION: Transmembrane domain (TMD)
250 <400> SEQUENCE: 7
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253 Pro Asp Cys Asp Glu Ser Gly Leu Phe Lys Ala Lys Gln Cys Asn Gly
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255 Thr Ala Thr Cys Trp Cys Val Asn Thr Ala Gly Val Arg Arg Thr Asp
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                                40
257 Lys Asp Thr Glu Ile Thr Cys Ser Glu Arg Val Arg Thr Tyr Trp Ile
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259 Ile Ile Glu Leu Lys His Lys Glu Arg Glu Ser Pro Tyr Asp Ser Lys
261 Ser Leu His Thr Ala Leu Gln Lys Glu Ile Thr Thr Arg Tyr Gln Leu
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263 Asp Pro Lys Phe Ile Thr Ser Ile Leu Tyr Glu Asn Asn Val Ile Thr
                                    105
               100
265 Ile Asp Leu Met Gln Asn Ser Ser Gln Lys Thr Gln Asp Asp Val Asp
                                120
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267 Ile Ala Asp Val Ala Tyr Tyr Phe Glu Lys Asp Val Lys Gly Glu Ser
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                            135
269 Leu Phe His Ser Lys Lys Met Asp Leu Arg Val Asn Gly Glu Leu Leu
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                                            155
271 Asp Leu Asp Pro Gly Gln Thr Leu Ile Tyr Tyr Val Asp Glu Lys Ala
                                        170
273 Pro Glu Phe Ser Met Gln Gly Leu Lys Ala Gly Val Ile Ala Val Ile
                                    185
                180
275 Val Val Val Met Ala Val Val Ala Gly Ile Val Val Leu Val Ile
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277 Ser Arg Lys Lys Arg Met Ala Lys Tyr Glu Lys Ala Glu Ile Lys Glu
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RAW SEQUENCE LISTING ERROR SUMMARY DATE: 12/22/2004 PATENT APPLICATION: US/10/828,559 TIME: 15:34:25

Input Set : A:\0334.210US-seqlist.txt
Output Set: N:\CRF4\12222004\J828559.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

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Seq#:82; Xaa Pos. 2,3,14,16,17,19,20,21,22,28,30,47,48,51
Seq#:83; Xaa Pos. 3,5,6,9,15,16,20
Seq#:84; Xaa Pos. 2,4,5,6,7,8,9,10,11,13,14,15,16,17,18,19,21,23,24,25,26
Seq#:84; Xaa Pos. 27,28,29,30,31,32
Seq#:85; Xaa Pos. 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23
Seq#:85; Xaa Pos. 24,25,26,27,28,29,30,31,32,33,35,36,37,38,39,40,41,42,43
Seq#:85; Xaa Pos. 44,46,47,48,49,50,52,54,55,56,57,58,59,60,61,62,63,64,65
Seq#:85; Xaa Pos. 66,67,68,69
Seq#:86; Xaa Pos. 11,13,14,15,16,17,18,19,21,23,24,25,26,27,28,29,30,31,32
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Seq#:88; Xaa Pos. 107,108
Seq#:89; Xaa Pos. 11,13,14,15,16,17,18,19,21,23,24,25,26,27,28,29,30,31,32
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Seq#:89; Xaa Pos. 102,103,104,105,106,107,108
Seq#:90; Xaa Pos. 2,3,4,5,6,7,8,27,28,29,31,32,33,43,44,45,46,47,48,49,50
Seq#:90; Xaa Pos. 51,52,53,54
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VERIFICATION SUMMARY

PATENT APPLICATION: US/10/828,559

DATE: 12/22/2004 TIME: 15:34:25

Input Set : A:\0334.210US-seqlist.txt
Output Set: N:\CRF4\12222004\J828559.raw

L:1902 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:81 after pos.:0 M:341 Repeated in SeqNo=81 L:1927 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:82 after pos.:0 M:341 Repeated in SeqNo=82 L:1951 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:83 after pos.:0 M:341 Repeated in SeqNo=83 L:1971 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:84 after pos.:0 M:341 Repeated in SeqNo=84 L:1993 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:85 after pos.:0 M:341 Repeated in SeqNo=85 L:2019 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:86 after pos.:0 M:341 Repeated in SeqNo=86 L:2047 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:87 after pos.:0 M:341 Repeated in SeqNo=87 L:2073 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:88 after pos.:0 M:341 Repeated in SeqNo=88 L:2108 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:89 after pos.:0 M:341 Repeated in SeqNo=89 L:2143 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:90 after pos.:0 M:341 Repeated in SeqNo=90 L:2168 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:91 after pos.:0 M:341 Repeated in SeqNo=91